

REMARKS

Claims 1-12, 14-19, 21-44, 46-51, and 53-91 are pending in the present application, with claim 1, 7, 10, 14, 21, 26, 33, 39, 42, 46, 53, 62, 65, 66, 76, and 83 amended and claims 13, 20, 45, and 52 cancelled. No new matter is introduced (see, e.g., claims 13, 20, 45, and 52, as originally filed).

Referring now to the present Office Action, claims 1-23, 25-27, 29-55, 57-59, 61-77 and 79-91 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,614,914 to *Rhoads et al.* in view of U.S. Patent No. 6,226,618 to *Downs et al.*; and claims 24, 28, 56, and 78 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Rhoads et al.* and *Downs et al.* in view of U.S. Patent No. 6,611,607 to *Davis et al.* The rejection of claims 1-91 is respectfully overcome because *Rhoads et al.*, *Downs et al.* and *Davis et al.*, taken alone or in combination, fail to disclose, teach or suggest all of the features recited in the claims. For example, independent claims 1 and 33 recite:

(a) “creating a **watermark specification** which describes how to generate a watermark;” (b) “generating the watermark based on the **watermark specification**,” (c) “merging the watermark into the target document based on the **template specification** to provide a watermarked document;” and (d) “generating a **template specification** which describes how to merge the watermark into a target document;”

independent claim 65, as amended, recites:

(a) “a content information means for describing **application-specific content** to be in watermarks, the application-specific content being generated by multiple applications and **including application identification** that is used during watermarks recovery;” (b) “a dynamic information means for **specifying dynamic content that is to be determined for binding into the watermarks** by the time of at least one of generating the watermarks, and creating the watermarked document;” and (c) “a static information means for **specifying static content** that is already determined for binding into the watermarks;” and

independent claim 76 recites:

(a) “a content information means for generating **application-specific content information** to be in the watermark, the application-

specific content information being generated by multiple applications and including application identification that is used during watermark recovery;” (b) “a watermark specification means for generating a watermark specification having information regarding the watermark based on the content information;” (c) “a template specification means for generating a template specification having at least one merge map that describes how each watermark is to be merged into a target document;” and (d) “a watermark generation means for generating the watermark in a target object based on at least one of a watermark specification, a target object information, and dynamic content information.”

By contrast, with respect to (a) “creating a **watermark specification** which **describes how to generate a watermark**,” as recited in independent claims 1 and 33, *Rhoads et al.* col. 11, lines 33-38; col. 44, lines 62-67; and col. 45, lines 1-16 merely discloses a particular type of watermarking technology, that is, a particular way to create a watermarked “signal” whose watermark can be later detected by a watermark detector and read by a watermark reader. However, the claimed “watermark specification” is different from the detection watermark of *Rhoads et al.*, in that the claimed “watermark specification” itself is not a detection watermark that is to be combined with other watermarks and then embedded into a target object (or “input image”), as in *Rhoads et al.*, but rather “describes how to generate a watermark,” as recited in independent claims 1 and 33.

The detection watermark of *Rhoads et al.* on the other hand is used “to assist in identifying the watermark and computing its orientation in a detection operation” (col. 11, lines 33-38). By contrast, with the claimed “watermark specification,” advantageously, it is possible to specify the digital watermarking technology of *Rhoads et al.* or others as a watermark technology to be used to generate a watermark.

Accordingly, “creating a **watermark specification** which **describes how to generate a watermark**,” as recited in independent claims 1 and 33 is not disclosed, taught or suggested by the watermarking technology of *Rhoads et al.* For example, as shown in FIG. 2 and disclosed on page 14, lines 8-27, pages 15-16, and page 17, lines 1-2 of Applicants’ specification, a “watermark specification” is used to instruct how to generate a

watermark. The “watermark specification” may contain information about content (or “message”) of the watermark to be generated, (watermark) technology to be used for generating the watermark, and target object into which the generated watermark is to be embedded. As further illustrated on page 27, lines 25-28, pages 28-29, and page 30, lines 1-13 of Applicants’ specification, the watermark specification can be an expression written in a watermark specification language. The purpose of such a watermark specification is again to be an input to the generation of a watermark that can be later embedded into a target object. Therefore, *Rhoads et al.* fails to disclose, teach or suggest “creating a **watermark specification which describes how to generate a watermark,**” as recited in independent claims 1 and 33.

With respect to (b) “generating the watermark based on the **watermark specification,**” as recited in independent claims 1 and 33, *Rhoads et al.* col. 6, lines 50-67; and col. 15, lines 51-56 merely discloses embedding and reading a watermark. However, the step of “generating the watermark based on the **watermark specification,**” as recited in independent claims 1 and 33, results in a stand-alone watermark that is isolated and independent from a target object (or “input image”) that the watermark is to be embedded into. Advantageously, this step makes it possible to generate a watermark prior to using the watermark to watermark a target object (or “input image”). The novel part of this step is that the watermark generation is based on a watermark specification, which provides much more flexibility in what content (or “message”) the watermark may carry, which watermarking technology may be used (one of which may be the digital watermarking technology of *Rhoads et al.*)

With respect to (c) “merging the watermark into the target document based on the **template specification** to provide a watermarked document,” as recited in independent claims 1 and 33, the present Office Action **admits** that *Rhoads et al.* does not teach a “template specification” (Office Action p. 3) and *Downs et al.* fails to cure this admitted deficiency in *Rhoads et al.*, as argued below.

Accordingly, with respect to (d) “generating a **template specification which describes how to merge the watermark into a target document,**” as recited in independent claims 1 and 33, *Downs et al.* col. 29, lines 43-45 merely discloses using templates. However, the templates disclosed by *Downs et al.* are not relevant to

watermarking technology, and nonetheless fail to disclose, teach or suggest “generating a **template specification which describes how to merge the watermark into a target document,**” as recited in independent claims 1 and 33.

With respect to (a) “a content information means for describing **application-specific content** to be in watermarks, the application-specific content being generated by multiple applications and **including application identification** that is used during watermarks recovery,” as recited in independent claim 65, *Rhoads et al.* col. 5, lines 17-24; col. 11, lines 33-45; and col. 19, lines 56-67 merely discloses features regarding the quality of information content and the extent to which the information content can be recovered accurately (col. 5, lines 17-24), combining a detection watermark with other watermarks to create a final watermark (col. 11, lines 33-45), and how a detector may robustly detect the existence of and recover a watermark (col. 19, lines 56-67). However, independent claim 65 is directed to a content information means for describing application-specific content, wherein the applications specified by the application-specific content, advantageously, need not include just a watermark detector, and can include a watermark embedder or other applications. In addition, the application-specific content is what goes into a watermark, rather than the watermark (object) itself.

With respect to (b) “a dynamic information means for **specifying dynamic content that is to be determined for binding into the watermarks** by the time of at least one of generating the watermarks, and creating the watermarked document,” as recited in independent claim 65, *Rhoads et al.* col. 5, lines 17-24; and col. 33, lines 9-13 merely discloses features regarding using computer-executable instructions, which can be either dynamic link libraries or (static) executable files. However, using computer-executable instructions, which can be either dynamic link libraries or (static) executable files fails to disclose, teach or suggest dynamic information that the content information means may specify, much less “a dynamic information means for **specifying dynamic content that is to be determined for binding into the watermarks** by the time of at least one of generating the watermarks, and creating the watermarked document,” as recited in independent claim 65.

With respect to (c) “a static information means for **specifying static content** that is already determined for binding into the watermarks,” as recited in independent claim 65,

the present Office Action **admits** that *Rhoads et al.* does not teach “a static information means ...” (Office Action p. 11) and *Downs et al.* fails to cure this admitted deficiency in *Rhoads et al.* Specifically, *Downs et al.* col. 14, lines 19-27 merely discloses employing digital certificates that bind public keys to persons or entities. However, *Downs et al.* fails to disclose, teach, or suggest binding static information (e.g., that is available at a time when a watermark specification was created) into a watermark, much less “**a static information means for specifying static content** that is already determined for binding into the watermarks,” as recited in independent claim 65.

With respect to (a) “a content information means for generating **application-specific content information** to be in the watermark, the application-specific content information being generated by multiple applications and **including application identification** that is used during watermark recovery,” as recited in independent claim 76, *Rhoads et al.* fails to disclose, teach or suggest the noted features, as argued above with respect to feature (a) of independent claim 65.

With respect to (b) “a watermark specification means for generating a **watermark specification** having information regarding the watermark based on the content information,” as recited in independent claim 76, *Rhoads et al.* fails to disclose, teach or suggest the noted features, as argued above with respect to feature (a) of independent claims 1 and 33.

With respect to (c) “a **template specification means for generating a template specification** having at least one merge map that **describes how each watermark is to be merged into a target document**,” as recited in independent claim 76, the present Office Action **admits** that *Rhoads et al.* does not teach “a template specification means ...” (Office Action p. 13) and *Downs et al.* fails to cure this admitted deficiency in *Rhoads et al.*, as argued above with respect to feature (d) of independent claims 1 and 33.

With respect to (d) “a watermark generation means for **generating the watermark** in a target object **based on** at least one of a **watermark specification**, a **target object information**, and **dynamic content information**,” as recited in independent claim 76, *Rhoads et al.* fails to disclose, teach or suggest the noted features, as argued above with respect to features (a) and (b) of independent claims 1 and 33 and feature (b) of independent claim 65.

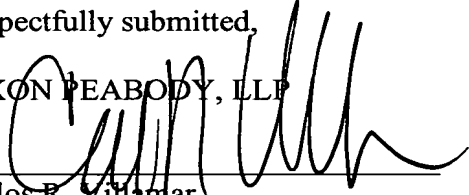
To expedite the prosecution in the present case, however, various features from the cancelled dependent claims have been added to the independent claims to further distinguish over the applied references. The remaining dependent claims 2-12, 14-19, 21-32, 34-44, 46-51, 53-64, 66-75, and 77-91 are allowable over *Rhoads et al.*, *Downs et al.* and *Davis et al.*, taken alone or in combination, on their on merits and for at least the reasons as argued above with respect to independent claims 1, 33, 65 and 76.

The prior art that has been cited, but not applied by the Examiner, has been taken into consideration during formulation of this response. However, since this art was not considered by the Examiner to be of sufficient relevance to apply against any of the claims, no detailed comments thereon is believed to be warranted at this time.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Respectfully submitted,

NIXON PEABODY, LLP



Carlos R. Villanar
Reg. No. 43,224

NIXON PEABODY LLP
CUSTOMER NO.: 22204
401 9th Street, N.W., Suite 900
Washington, DC 20004
Tel: 202-585-8000
Fax: 202-585-8080

MSK/CRV:crv